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## New Curculionidae (Coleoptera) from Southern Africa

by

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Many of the species described below have been found in material kindly submitted to the Imperial Institute of Entomology by Mr. H. K. Munro, of the Division of Entomology, Department of Agriculture, Union of South Africa. The types will be deposited in the British Museum.

Subfamily **BRACHYDERINAE**

### **Mimaulus thesii** sp.n.

Derm red-brown, with dense grey scaling, which sometimes has a metallic reflection; scales erect, with their apex bent backwards so as to lie horizontally, the spaces between the scales entirely filled with an earthy indumentum so that only the horizontal tips are visible, and even these are often hidden by an earthy covering.

*Head* broad, not sulcate, quite smooth superficially, but if the deep indumentum is scraped off, the true surface of the head is rugosely granulate; eyes small, only very narrowly visible from above, longitudinally convex, highest behind the middle, the posterior orbital margin not elevated but on the same level as the neck; above the eye an obtuse ridge forming a continuous line with the side of the rostrum (viewed from above) and terminating abruptly at the base so as to form an obtuse angulation. *Rostrum* transverse (4:7), widest at the base, rapidly narrowing apically, with the sides straight, sculptured and clothed like the head, appearing quite flat

and smooth dorsally, the sulcus dividing it from the head almost or quite concealed; epistome inconspicuous, steeply declivous, the margin not carinate. *Prothorax* a little more than twice as broad as long, widest near the base, strongly rounded laterally, not constricted at the apex, the apical margin subtruncate or very shallowly sinuate, the base truncate; the dorsum even, without any median furrow, the basic sculpture and clothing as on the head, only the flat tips of the scales showing through the indumentum, with sparse short stout subrecumbent setae which become erect laterally. *Elytra* broadly obovate, widest somewhat behind the middle, jointly truncate at the base and there much narrower than the widest part of the prothorax; the shallow punctate striae entirely concealed, the intervals with the derm densely punctate and with a sparse row of stout subrecumbent setae, which are longer and erect laterally. *Legs* densely squamose, with sparse suberect setae; the apical margin of the anterior pairs of tibiae with only two spines in addition to those at the angles.

Length 3.5-4.2 mm., breadth 2.5-3.0 mm.

*Southern Rhodesia*: Salisbury, 4 ex. at roots of *Thesium* sp., xi. 1899; 10 ex., xi-xii. 1897, xi. 1898, i and xii. 1899, xi. 1900, ii. 1906 (G.A.K.M.).

Very closely allied to *M. testudo* Fhs., which is known at present only from the Waterberg and Magaliesberg districts of the Transvaal and differs in having the apical margin of the prothorax deeply sinuate; the rostrum also is shorter, with the epistome almost vertical; the supraocular ridges on the head are much less marked and gradually disappear towards the base without forming any angulation above the eye.

***Mimaulus humeralis* sp.n.**

Derm black, with dense grey scaling and earthy incrustation as in *M. thesii*.

*Head* with the sculpture and clothing as in *M. thesii*, but the supraocular ridges not forming a continuous line with the sides of the rostrum, the anterior margin of the forehead being narrower than the base of the rostrum, the supraocular callus distinct; eyes much more visible from above, almost flat longitudinally, with the posterior margin projecting obliquely outwards in a sharp angle (almost as in some species of *Protostrophus*), the posterior orbital margin raised high above the level of the neck and forming a conspicuous squamose border to the eye. *Rostrum* somewhat transverse (3:4), widest at the base, narrowing to the apex, with the sides slightly curved, appearing flat and smooth (though the actual derm is rugosely granulate), the scales forming rosettes round the very short recumbent setae; epistome steeply declivous, its margin not elevated. *Prothorax* more than twice as broad as long, widest at the base, narrowing with a strong curve to the apex, the apical margin truncate, the base arcuate; the dorsum even except for a shallow transverse impression at one-third from the apex (often

concealed), scales (when visible) forming rosettes round the very short recumbent setae, which are not longer or erect laterally. *Elytra* broadly obovate, broadest well behind the middle, jointly sinuate at the base, with the basal angles forming a small obtuse projection, the base being as wide as the base of the prothorax; the very shallow punctate striae entirely concealed, the intervals each with a row of very short suberect black setae, which do not become longer or paler laterally. *Legs* densely squamose, with numerous erect setae; front tibiae with only two spines on the apical margin in addition to those at the angles.

*Length* 4.0-4.5 mm., *breadth* 2.5-2.9 mm.

*Portuguese E. Africa*: Delagoa Bay, 8 ex. (*Monteiro*), 6 ex., viii. 1900 (*F. Muir*), 6 ex., i. 1929 (*H. K. Munro*-type), 8 ex., ii. 1935 (*R. E. Turner*), Polana Park, 2 ex., i. 1929 (*R. Guardado*); Mozambique, 5 ex. (*F. Muir*).

Differs from all the five previously described species of *Mimaulus* in the projecting basal angles of the elytra, and from all except *sulcatifrons* Mshl., in the elevation of the posterior orbit of the eyes; but the latter species is readily distinguished by its trisulcate forehead.

#### **Protostrophus munroi** sp.n.

♂ ♀. Derm black, with dense coppery scaling; head with a paler patch adjoining each eye; pronotum either uniform coppery (♂) or with two broad irregular pale stripes continuous with the pale patches by the eyes (♀); elytra with very variable and irregular blackish patches, especially on the posterior half, and an oblique whitish stripe behind the middle running backwards from stria 5 to stria 2; in one ♂ this oblique stripe disappears because intervals 3-5 are whitish from the base to the middle and the pale scales on 3 continue as a stripe almost to the apex; underside coppery grey.

*Head* separated from the rostrum by a short sulcus in the middle, the lateral parts of the sulcus entirely hidden by scaling; forehead with dense scaling and numerous suberect spatulate setae, the median sulcus narrow; eyes strongly convex, highest almost in the middle, only very shortly produced behind, the orbit not projecting on the posterior edge. *Rostrum* (without mandibles) somewhat transverse (4:5), densely squamose, with a depression in the middle of the apical half, without any apparent median carina, the setae as on the head. *Antennae* red-brown; funicle with joint 1 nearly twice as long as 2, 3-6 equal and slightly longer than broad. *Prothorax* transverse (4:5), moderately rounded laterally, widest at the middle, not constricted at base or apex, the latter truncate and as wide as the slightly arcuate base; dorsum gently convex longitudinally, the sculpture hidden by scaling, except for a narrow flattened impunctate carina which does not reach the apex; the spatulate setae subrecumbent. *Elytra* rather narrowly ovate, a little

wider and somewhat more acuminate apically in ♀, widest at about the middle, sinuate at the base (less so in ♀); the punctures in the shallow striae visible through the scaling, scarcely diminishing behind; the intervals slightly convex, with a row of short subrecumbent spatulate setae, which are duplicated and irregular on interval 3 and all becoming longer and more erect on the declivity in ♀ than in ♂; scales small, round and contiguous. *Legs* black, with dense coppery and grey scales; front tibiae with the apical row of spines short, numerous and scarcely ascending the dorsal edge, the spines on the inner edge a good deal stouter than usual, hind corbels bare.

*Length* 3.5-3.7 mm., *breadth* 1.6-1.7 mm.

*Cape Province*: Middelburg, 3♂ 2♀, i. 1930 (H. K. Munro).

Closely allied to *P. obliquecinctus* Boh., which differs, however, in having the eyes much more obliquely prominent behind, the rostrum is much wider at the base, the elytra are more obtuse and less compressed posteriorly, the transverse convexity on the declivity being much lower, and the spines on the inner edge of the front tibiae are much more slender.

### **Protoctrophus umfolozi** sp.n.

♂ ♀. *Derm* black, with dense scaling which may be almost uniformly grey or brownish grey with variable dark brown markings; pronotum with a large ill-defined pentagonal or trapezoidal dark patch in the middle of the basal half (faintly visible even in grey specimens) which is broadest in front and narrows to the basal margin; elytra almost unicolorous grey or (in the darker specimens) with numerous brown patches in the striae; underside uniformly grey.

*Head* separated from the rostrum by a sulcus which is very narrow at the sides but broader and strongly curved in the middle; forehead with dense scaling and subrecumbent setae, the median sulcus broad and deep; eyes moderately convex, extending backwards for nearly half their length, the orbit not projecting on the posterior edge. *Rostrum* (without mandibles) strongly transverse (3:5), half as wide at apex as at base, almost flat dorsally, with a low median carina which is entirely covered with scales. *Antennae* ferruginous; funicle with joint 1 nearly twice as long as 2, 3-6 subequal and slightly longer than broad. *Prothorax* strongly transverse (4:7), deeply constricted at base and apex, which are of equal width, strongly rounded and subexplanate laterally, widest behind the middle; dorsum strongly convex longitudinally, highest at the middle, the base depressed well below the level of the apex and with an impressed transverse line adjoining the elevated margin, the surface smooth, densely squamose, without any trace of a median carina; setae small, appressed, inconspicuous. *Elytra* ovate, widest at about the middle, almost similar in the two sexes, subtruncate at the base, with the lateral angles shortly produced

forwards in a small sharp prominence; the dorsal outline distinctly convex, highest at the middle, sloping rather steeply towards the base; the striae distinctly impressed, broader than usual, with small distant punctures showing through the scaling; intervals convex, with a row of broad recumbent setae. *Legs* piceous, with dense grey scaling; front tibiae with a strong subapical angulation on the dorsal edge bearing a dense group of four very short spines, hind corbels bare.

*Lentgh* 4.0-4.5 mm., breadth 2.4-2.5 mm.

*Zululand*: Umfolozi, 1 ♂ 3 ♀, xii. 1921 (R. H. Harris), 1 ♀, x. 1923.

Belongs to the group of *amplicollis* Fhs., but the latter species has the elytra broader, more oblong and not declivous at the base, the intervals are much flatter, and the setae very short and inconspicuous; the prothorax is flat longitudinally in the middle, and the base is not marginate; the front tibiae lack the subapical angulation and the hind corbels are densely squamose.

#### Subfamily OTIORRHYNCHINAE.

#### ***Ellimenistes graminum* sp.n.**

♂ ♀. Derm black, with dense grey scaling with a slight metallic reflection, but more or less stained dorsally with a brown earthy indumentum.

*Head* with dense overlapping scales, forehead flat, eyes only feebly convex. *Rostrum* longer than broad (7:5) and longer than the head, almost parallel-sided, being only slightly widened at the apex; the median area with dense overlapping scales, comparatively narrow, gradually widening behind, with its lateral margins normally well defined, flat on the posterior half and with a median sulcus between the antennae, where its width is much greater than that of the base of the scape and about equal to that of a scrobe. *Antennae* with the scape moderately curved, gradually clavate, with dense scaling and stout subrecumbent setae; funicle with joint 2 only a little longer than 1, the distal ones not or very slightly longer than broad. *Prothorax* transverse (3:5), widest near the base, narrowing anteriorly, almost straight or very slightly curved laterally, with a rather broad collar-like constriction at the apex which extends across the dorsum; upper surface with dense erect scales, the spaces between them usually filled with an earthy substance; a few short stout erect setae in the middle of the disk and a row of 4-6 along the front margin. *Elytra* broadly ovate, widest at the middle, broadly rounded behind, shallowly sinuate at the base, and without prominences of any kind; the dorsal outline only slightly convex, the posterior declivity vertical near the apex; the striae well defined, but the punctures scarcely visible through the scaling; the intervals broad, feebly convex, with dense overlapping fluted scales and a row of stout erect setae. *Legs* with dense grey scales

and stout curved setae; front tibiae with the external apical angle shortly produced.

*Length* 2.5-2.6 mm., breadth 1.3-1.4 mm.

*Transvaal*: Barberton, Stentor, 4 ♂ 4 ♀. on veld grass, xi. 1927 (H. K. Munro).

Closely allied to *E. echinatus* Mshl. (Bull. Ent. Res. xvii, p. 211, pl. xix, fig. 14), a much larger species, which differs in having the space on the rostrum between the scrobes much narrower than a scrobe and about as wide as the base of the scape; the distal joints of the funicle are distinctly longer than broad; the prothorax is not constricted at the apex; the elytra are acuminate behind; and the external angle of the front tibiae is not produced.

***Lalagetes inaequalis* sp.n.**

Derm black, with dense pale grey scaling; pronotum with two very broad darker dorsal stripes, which may be very faint or entirely absent; elytra with widely separated brown spots on intervals 3, 5, 7, which may become evanescent; in one example the whole dorsal area as far as stria 5 is uniform pale brown; under-side pale grey.

*Head* with the densely packed scales suberect and appearing concave; forehead very broad, parallel-sided, shallowly impressed in the middle; eyes entirely lateral, only slightly convex, highest at the middle. *Rostrum* as long as broad, the dorsal area parallel-sided, broadly and deeply impressed; scrobes comparatively narrow in front, widening behind but not nearly reaching the eyes. *Antennae* densely squamose, including the funicle; scape very stout, strongly curved at one-third from the base, thence straight and rapidly widening to the apex, with stout subrecumbent setae; funicle with joint 1 longer than 2, 3-7 strongly transverse. *Prothorax* transverse (3:5), strongly rounded laterally, widest behind the middle, with a broad deep collarlike constriction, the dorsal apical area being depressed; dorsum longitudinally convex on the basal two-thirds; without any median or lateral impressions; scaling as on the head, with very broad subrecumbent scale-like setae, which are brown on the disk and pale laterally. *Elytra* subglobose, nearly as broad as long (7.5:8.0), rapidly widening from the base to the low obtuse subhumeral elevation, jointly sinuate at the base, very broadly rounded behind; the striae showing as narrow lines through the scaling, which entirely conceals the punctures; the alternate intervals slightly more raised and more convex than the others; the broad spatulate suberect setae unequally spaced, and much more numerous on the higher intervals. *Legs* with dense grey scaling, the femora with a brown patch in the middle of the outer face; front tibiae with the external apical angle produced outwards, the corbels of the hind pair densely squamose; tarsi also squamose dorsally.

Length 2.5-3.2 mm., breadth 2.0-2.2 mm.

Cape Province: Porterville, 5 ex., ix. 1935 (B. Toerien).

No reliable external sexual characters can be observed.

Very closely related to *Lalagetes leurops* Mshl. (Bull. Ent. Res. xxii, 1931, p. 418, pl. xxi, fig. 1), these two species presenting the following distinctive combination of characters: the parallel-sided forehead, the outward apical production of the front tibiae, and the dense scaling on the antennae, tarsi and hind corbels.

*L. leurops*, which occurs on the Cape Peninsula, exhibits the following distinctions: eyes much flatter; pronotum with a shallow median impression and a deeper one on each side; elytra proportionately narrower, less broadly rounded at the shoulders, the sub-humeral elevation obsolete, the setae smaller and evenly distributed on all the intervals.

#### Subfamily CLEONINAE.

##### **Prionorrhinus geigeriae** sp.n.

♀. Head and rostrum with dense whitish scaling above, the sides black with sparse grey scaling (denser on the genae) and ochreous powdering, the two areas sharply divided on a line with the upper edge of the eye; prothorax with two broad admedian whitish stripes, which enclose a blackish ochre-dusted stripe that narrows in front and is there partly obliterated by whitish setae, and on each side of them a sharply defined blackish stripe, followed by a broad whitish stripe which merges beneath into the colouring of the prosternum but has its sharply defined upper edge strongly rounded at about three-fourths, its extension on to the postocular lobe becoming abruptly much narrower; elytra brownish grey, becoming whiter on the lateral margins, with a short dark brown stripe at the base of the suture and a subquadrate subdenuded blackish patch in the middle on intervals 5-7, which has on its anterior edge two distinct whitish spots on ints. 5 and 7 and an irregular group of four or five similar spots just behind; striae 1-3 macular, with alternating whitish and brownish spots; venter dirty white, with a longitudinal row of small round subdenuded spots on each side of ventrites 1-4.

*Head* not separated from the rostrum by a deep transverse incision, but with an impression on each side above the eye and the higher intervening area with a deep round fovea; the vertex with coarse punctures almost absconded by the clothing; eyes elongate oval.

*Rostrum* very stout, shorter than pronotum (3:4), almost parallel-sided, with a well-marked, entirely squamose median carina, wh. disappears towards the base and is more prominent anteriorly, reaching the level of the antennae; on each side of the median carina a shallow sulcus, which is deepest anteriorly, and

externally to this a less distinct oblique squamose carina. *Prothorax* very slightly broader than long, parallel-sided to  $\frac{3}{4}$  from the base and abruptly and strongly constricted at the apex, with the postocular lobes well developed; dorsum closely and deeply punctate, the punctures being visible through the scaling, with a bare abbreviated carina in the middle only; a broad shallow impression on each side in the basal half, bounded dorsally by the upper edge of the dark lateral stripe, which is here subcostate. *Elytra* shallowly impressed transversely near the base, with the sides slightly rounded, the shoulders very oblique, and the apices separately rounded; the striae well marked and with deep punctures throughout, which are clearly visible through the scaling even laterally and at the apex. Legs without any subapical tooth on the lower edge of the tibiae.

Length 10.5-13.0 mm., breadth 4-5 mm.

*Transvaal*: Fourteen Streams, 4 ♀, bred from stems of vermeerbossie (*Geigeria passerinoides*), xi. 1925 (S. A. Hunt).

Allied to *P. stillatus* Gyll., which differs as follows: Head without depressions; rostrum with the carina ceasing behind the antennae but reaching the base; prothorax much less strongly constricted at the apex; elytra more parallel-sided, with the shoulders more prominent and the punctures much shallower, almost concealed at the sides and apex.

#### Subfamily ERIRRHININAE.

#### **Echinocnemus maestus** sp.n.

♂. Derm black, with dense dark smoky grey or brown scales above (concealing the derm), underside with dense greyish white scaling; pronotum with a faint paler brown spot on each side near the margin behind the middle, the dividing line on the pleurae between the dark and light scales rather sharply defined and approximately on a level with the margin of the elytra; scutellum pale grey; elytra with a faint round paler spot on interval 3 near the top of the declivity, the lateral inflexed margins mainly greyish white with variable brown markings, the declivity with whitish spots.

*Head* with dense overlapping scales, the forehead as broad as the extreme base of the rostrum, slightly flattened but continuous with the rostrum. *Rostrum* as long as the pronotum, very stout, strongly curved, dilated at the apex and narrowed at the base, with dense overlapping scales and subrecumbent setae which entirely conceal the sculpture; scrobes passing beneath the rostrum at about the middle, not extending beyond the antennae. *Antennae* red-brown, the club fuscous; funicle with joint 1 twice as long as 2, the distal joints transverse. *Prothorax* transverse (4:5), moderately rounded laterally, widest at a little beyond the middle, constricted at the apex, the constriction continued across the dorsum, the base arcuate, the postocular lobes well developed, the front margin of

the prosternum deeply sinuate; dorsum flat longitudinally in the middle, with dense small punctures, the very narrow intervals being raised so as to form a reticulation, without any smooth median line; the surface not squamose but covered with a thin brown indumentum which does not conceal the punctures, the setae subrecumbent on the disk, more curved and conspicuous laterally. *Scutellum* with pale grey scaling. *Elytra* parallel-sided from the obtusely prominent shoulders to far beyond the middle, shallowly constricted subapically, jointly sinuate at the base; striae distinctly impressed but almost covered by the dense scaling so that the punctures are concealed; the intervals gently convex, with dense overlapping scales and a row of stout curved subrecumbent setae, which are more raised on the declivity. *Legs* red-brown, with dense grey and brown scales, the tarsi paler; tibiae strongly denticulate and with sparse subrecumbent long setae on the lower edge; tarsi with joint 3 deeply lobate and broader than 2.

*Length* 3.8-4.0 mm., *breadth* 1.5-1.6 mm.

*S. Rhodesia*: Salisbury, 1 ♂, xii. 1899 (R. H. Thomas), 2 ♂, xii. 1904 (G.A.K.M.).

Closely allied to *E. abyssinicus* Hust., in which the rostrum is much less curved, not widened at the apex or narrowed at the base; the forehead is wider; the pronotum has a narrow pale median stripe; the elytra are narrower and the alternate intervals slightly more raised, especially on the declivity.

### ***Echinocnemus cervinus* sp.n.**

♂♀. Derm red-brown, entirely concealed by dense scaling; prothorax pale brown with two very broad dark brown stripes on the disk, the pleurae pale brown down to the coxae; elytra pale brown, usually with the following ill-defined dark brown markings; a basal patch on intervals 1 and 2, that on 1 sometimes extending backwards almost to the middle, 3 with a stripe from the base to the declivity, and including an elongate grey spot just before the declivity, a short stripe at the base of 6; the inflexed margins and declivity variegated with grey scales; underside with uniform dense grey scales and very short suberect scale-like setae.

*Head* with dense dark brown scaling; forehead narrower than the base of the rostrum, with a shallow transverse depression.

*Rostrum* similar in the two sexes, very stout, shorter than the middle line of the pronotum (6:7), slightly widening at the apex, parallel-sided in the basal half, moderately curved, with dense scaling and short stout curved setae which entirely conceal the sculpture; scrobes oblique, passing beneath the rostrum close to its base and narrowly visible from above for nearly half their length, not extending beyond the antennae. *Antennae* red-brown, including the club; funicle with joint 1 longer than 2, the distal joints transverse. *Pronotum* slightly transverse (7:8), the sides almost straight and slightly diverging from the base to beyond the middle, then

curving round to the apex, which is shallowly constricted, but the constriction is not continued dorsally; dorsum flat longitudinally in the middle, the dense scaling entirely concealing the sculpture, the setae longer, shiny and recumbent on the disk, much shorter, scale-like and erect laterally. *Scutellum* with dense grey scaling. *Elytra* narrowly ovate, parallel-sided from the obtusely prominent shoulders to before the middle, then narrowing behind, the apical area being more produced and less steeply declivous than usual, the base very shallowly sinuate; the striae fine but distinct, the small distant punctures hidden by the scaling; the intervals gently convex, all equal, with dense scaling and a row of short curved subrecumbent setae. *Legs* red-brown, with dense uniform grey or brownish grey scaling, the tarsi paler; tibiae with fine short teeth and a rather dense fringe of long setae on the lower edge; tarsi slender, joint 3 only shallowly lobate and not broader than 2.

Length 3.5-2.8 mm., breadth 1.5-1.6 mm.

*S. Rhodesia*: Salisbury, 5 ♂ 3 ♀, xii. 1904 (G.A.K.M.).

***Echinocnemus plagiatus* sp.n.**

♂ ♀. Derm red-brown, concealed by dense brown scaling; pronotum with a narrow indistinct pale median stripe and sometimes with a slightly paler broad lateral stripe which is continued on to the shoulder of the elytra; elytra mottled with dark brown and with a broad common whitish band across the top of the declivity as far as stria 4 or 5, its front margin being strongly biarcuate and its hind margin with a short projection on the suture; underside with dense brownish grey scaling.

*Head* with dense overlapping scales, the forehead very shallowly depressed, as broad as the base of the rostrum. *Rostrum* similar in the two sexes, very stout, as long as the pronotum, parallel-sided to the antennae and only slightly wider at the apex, moderately curved, with dense scaling almost to the apex and short curved subrecumbent setae; scrobes passing beneath the rostrum at one-third from the base, not extending beyond the antennae. *Antennae* red-brown; funicle with joint 1 twice as long as 2, the distal joints transverse. *Prothorax* transverse (7:9), moderately rounded laterally, widest behind the middle, constricted at the apex, the constriction continued rather deeply across the dorsum, the base slightly arcuate, the postocular lobes well developed, the front margin of the prosternum deeply sinuate; dorsum gently convex longitudinally, the dense deep punctures partly visible through the scaling owing to the concave scales which fit into the punctures, with two shallow rounded depressions in the middle of the disk; the stout setae dark and recumbent on the disk, pale and curved laterally. *Scutellum* with dense grey or brown scaling. *Elytra* broader than in the preceding species, parallel-sided from the prominent shoulders to beyond the middle, deeply constricted near the apex, shallowly sinuate at the base, with a shallow transverse

impression between striae 1 and 5 at one-fifth from the base; striae distinctly impressed but almost covered by scaling so that the punctures are concealed; the intervals slightly convex, of equal height except on the declivity where 1 is somewhat raised and 2 rather deeply depressed; the dense brown scales concave close to the base, then becoming convex, the whitish scales flat; the setae sparse, stout and recumbent. *Legs* red-brown, with dense brown scaling and very broad pale recumbent setae; tibiae with inconspicuous teeth and sparse setae on the lower edge, the front pair somewhat curved inwards at the apex; tarsi broad, joint 3 deeply lobate and broader than 2.

*Length* 3.5-4.5 mm., *breadth* 1.7-2.0 mm.

*Portuguese E. Africa*: Beira, 2 ♂ 2 ♀, vi. 1903, i-ii. 1906 (P. A. Sheppard).

### ***Echinocnemus rufitarsis* sp.n.**

♂ ♀. *Derm* black, with sparse short dark setiform scales, which do not conceal the integument, and a few broader grey or brown scales; prothorax with an indistinct broad lateral band of brown or brown and grey scales, and sometimes with a very short grey stripe in the middle of the base; elytra with small basal patches of grey scales adjoining the shoulders and immediately behind the scutellum, and very variable, widely scattered spots formed of a few grey scales, sometimes forming a common transverse band at the top of the declivity as far as stria 3, the inflexed lateral margins with fairly dense brown scales, which sometimes occur also along the suture; underside with fairly dense short grey or brownish scales.

*Head* with strong separated punctures and sparse brown setiform scales; forehead narrower than the base of the rostrum, not depressed. *Rostrum* similar in the two sexes, as long as the pronotum, stout, moderately curved, parallel-sided from the base to the antennae, wider at the apex, punctures and scaling as on the head; scrobes passing beneath the rostrum at about the middle, not continued beyond the antennae. *Antennae* red, including the club; funicle with joint 1 half as long again as 2, distal joints transverse. *Prothorax* transverse (7:8), strongly rounded laterally, widest at the middle, shallowly constricted at the apex, the constriction not continued across the dorsum, the base feebly arcuate, the postocular lobes obsolescent, the front margin of the prosternum deeply sinuate; dorsum longitudinally convex in the middle, with dense strong punctures which are clearly visible; setae short, curved and spatulate. *Scutellum* small, with grey scaling. *Elytra* parallel-sided from the obtusely prominent shoulders to beyond the middle, shallowly constricted near the apex, the base shallowly sinuate; striae deep, with strong separated punctures which are clearly visible; the intervals slightly convex, shiny, of equal height, each with a row of stout curved dark setae. *Legs* black to piceous, with

subcontiguous grey scales, the tarsi red; tibiae straight dorsally, with short sharp denticles and a fairly dense fringe of setae on the lower edge, especially on the front pair; tarsi short, with joint 3 deeply lobate and broader than 2.

Length 2.5-3.5 mm., breadth 1.0-1.4 mm.

*S. Rhodesia*: Salisbury, 1 ♂, ii. 1895; Umtali, 1 ♀, xii. 1900 (G.A.K.M.). Natal: Malvern, 1 ♂ 1 ♀, vii-viii. 1897 (G.A.K.M.).

***Echinocnemus angusticollis* sp.n.**

♂. Derm dull black, with sparse narrow setiform black scales, with scattered broader fuscous or grey scales, which become denser along the lateral and apical margins of the elytra; underside with subcontiguous elongate grey scales.

*Head* with strong separated punctures; forehead much narrower than the base of the rostrum, not depressed. *Rostrum* a little longer than the pronotum (8:7), stout, moderately curved, parallel-sided in the basal half then gradually widening to the apex, strongly and closely punctate throughout; scrobes passing beneath the rostrum at about the middle, not continued beyond the antennae. *Antennae* red-brown, with the club fuscous; funicle with joint 1 half as long again as 2, the distal joints transverse. *Prothorax* as long as broad, gently rounded laterally, widest at a little behind the middle, not constricted at the apex, the base arcuate, the postocular lobes short, the front margin of the prosternum deeply sinuate; dorsum slightly convex longitudinally, with strong close punctation and short recumbent dark setae. *Scutellum* with grey scales. *Elytra* parallel-sided from the obtusely prominent shoulders to the middle, scarcely constricted near the apex, the base shallowly sinuate; striae deep with strong separated punctures which are clearly visible; the intervals slightly convex, of equal height, each with a row of short recumbent dark setae. *Legs* piceous, with subcontiguous grey or fuscous scaling, the tarsi red-brown; tibiae straight dorsally, the denticles and fringe on the lower surface inconspicuous; tarsi with joint 3 deeply lobate and much broader than 2.

Length 3.0-3.4 mm., breadth 1.2-1.4 mm.

*S. Rhodesia*: Salisbury, 2 ♂, vii. 1899 (G.A.K.M.).

***Echinocnemus torvus* sp.n.**

♂ ♀. Derm dull black, with small non-contiguous grey and brown scales, which form no definite pattern but are somewhat denser laterally and along the suture of the elytra; underside with denser brownish grey scales.

*Head* with strong close punctation and sparse scales; forehead narrower than the base of the rostrum, not depressed. *Rostrum* as long as or slightly longer than the pronotum, moderately stout, strongly curved, parallel-sided from base to apex; punctures strong and close laterally, smaller and more distant dorsally, and very sparse towards the apex; scrobes passing beneath the rostrum at

about the middle, not extending beyond the antennae. *Antennae* pale red-brown, including the club; funicle with joint 1 half as long again as 2, the distal joints somewhat transverse. *Prothorax* slightly transverse (8:9), rather strongly rounded laterally, widest at about the middle, shallowly constricted at the apex, the constriction not continued dorsally, the base feebly arcuate, the postocular lobes rather short, the front margin of the prosternum deeply sinuate; dorsum rather strongly convex longitudinally, with dense strong punctures, which are clearly visible, and an abbreviated smooth median line; the short dark setae appressed and inconspicuous. *Scutellum* with grey scaling. *Elytra* unusually narrow at the shoulders (especially in ♂) and much more convex transversely than in any of the preceding species, widening very slightly to behind the middle, feebly constricted near the apex, the base subtruncate; striae broad and deep, with strong separated punctures which are clearly visible; the intervals slightly convex, of equal height, are with a row of short dark recumbent setae. *Legs* red-brown, with sparse grey scales, the tarsi paler; tibiae with short sharp denticles but no fringe of long setae on the lower edge, the front pair distinctly curved inwards at the apex; tarsi with joint 3 deeply lobate and broader than 2.

*Length* 3.4-3.5 mm., *breadth* 1.4-1.5 mm.

*S. Rhodesia*: Salisbury, 1 ♀, i. 1895, 1 ♂, ii. 1895 (type-G.A.K.M.); Manini R.; Manica, 1 ♀, x. 1897 (G.A.K.M.).

Up to now only three species of *Echinocnemus* have been described from south of the Zambezi; *inquinatus* Gyll., *tostus* Mshl., and *nitidus* Mshl. The somewhat involved synonymy of the first species has led to its apparent omission from *Catalogus Coleopterorum*, but actually it appears under two different names in two different subfamilies. The species was originally described by Gyllenhal (1836) as *Erirrhinus inquinatus*, but he redescribed it (according to Fähræus, 1843) later on in the same volume as *Tychius squalidus*, of which I have seen the type. Owing, no doubt, to the fact that the species appeared in the Munich Catalogue under the genus *Tychius* Hartmann (1906) described it again as *Echinocnemus bisignatus*.

The nine species now recorded from this area may be distinguished by the following key:—

- 1 (4) Scrobes entirely lateral.
- 2 (3) Derm black, densely squamose above, underside with normal scaling; forehead as broad as base of rostrum; front margin of prosternum very deeply sinuate; joint 3 of hind tarsi shallowly lobate, not broader than 2. . . . . *inquinatus* Gyll.
- 3 (2) Derm shiny red-brown, bare above except for sparse scales on the declivity, underside with fringed scales; forehead narrower than base of rostrum; front margin of prosternum shallowly sinuate; joint 3 of hind tarsi deeply lobate, much broader than. 2

*nitidus* Mshl.

- 4 (1) Scrobes oblique, passing beneath rostrum.
- 5 (8) Third joint of hind tarsi shallowly lobate, not broader than second; interval 3 on elytra with a pale spot behind middle (sometimes indistinct in *maestus*).
- 6 (7) Scrobes invisible directly from above, rostrum strongly curved, narrowed at the base and there not broader than the forehead; punctures on pronotum plainly visible; apical area of elytra not produced, the declivity steep, almost vertical close to apex; dorsal colouring uniform dark smoky grey or brown . . . . . *maestus* sp.n.
- 7 (6) Scrobes visible directly from above; rostrum gently curved, not narrowed at base and there broader than forehead; punctures on pronotum concealed; apical area of elytra produced, the declivity sloping much less steeply; dorsal colouring pale brown with dark brown markings . . . . . *cervinus* sp.n.
- 8 (5) Third joint of hind tarsi deeply lobate, broader than second; interval 3 without any isolated pale spot
- 9 (10) Forehead as broad as base of rostrum; elytra with a broad whitish band at the top of the declivity extending to stria 4 or 5, interval 2 rather deeply depressed on the declivity . . . . . *plagiatus* sp.n.
- 10 (9) Forehead narrower than base of rostrum; elytra without any pale band, interval 2 not depressed behind.
- 11 (16) Rostrum widening at the apex; elytra with shoulders of normal width; front tibiae with the dorsal edge straight; metasternum between the coxae longer than a median coxa.
- 12 (13) Front margin of prosternum shallowly sinuate; femora distinctly flattened at the base; elytra dorsally with dense brown scales which almost conceal the derm; funicle with joint 7 as long as broad; length 5-6 mm., . . . . . *tostus* Mshl.
- 13 (12) Front margin of prosternum deeply sinuate; femora not flattened at base; elytra dorsally with sparse or narrow scaling which does not conceal the derm; funicle with joint 7 transverse; length 2.5-3.5 mm.
- 14 (15) Prothorax slightly transverse, strongly rounded laterally, shallowly constricted at apex; elytra with grey spots at the shoulders and behind the scutellum; tarsi red; metasternum 1.5 times as long as a median coxa, scales on underside short . . . . . *rufitarsis* sp.n.
- 15 (14) Prothorax as long as broad, gently rounded laterally, not constricted at apex; elytra without pale basal spots; tarsi brown; metasternum twice as long as a median coxa; scales on underside elongate . . . . . *angusticollis* sp.n.
- 16 (11) Rostrum parallel-sided to apex; elytra with narrower shoulders; front tibiae curving inwards at apex; metasternum as long as a median coxa . . . . . *torvus* sp.n.

#### Subfamily CIONINAE.

#### **Cionus pardus** sp.n.

♂ ♀. Derm black, with dense fulvous scaling (sometimes varying to yellowish grey), the elytra with numerous, small sub-

quadrate black spots on the alternate intervals, but some of the spots often obsolete.

*Head* with fairly dense scaling, which does not entirely conceal the derm, and with numerous small confluent black spots in the middle; forehead narrowing rapidly behind, at its narrowest point less than half as wide as the base of the rostrum but about twice as wide as the funicle, with dense scales which are usually suberect laterally. *Rostrum* distinctly longer than the pronotum in both sexes (7-9:6), gently curved, parallel-sided from base to the antennae, thence widening slightly to the apex, rather deeper than wide at the base, very rugosely punctate throughout, with three very indefinite narrow carinae; scales entirely grey or fulvous laterally, mixed with black and suberect dorsally. *Antennae* piceous; funicle a little longer than the club, with joint 1 slightly longer than 2. *Prothorax* transverse (6:11), rapidly narrowing from base to apex with a sublateral angulation at the middle, the apex being more than half as wide as the base (6.5:11), which is bisinuate, the front margin of the prosternum deeply excised; dorsum with the scales much longer than those on the elytra, lying longitudinally, except along the basal margin where they are transverse with their apices inwards. *Scutellum* shield-shaped, a little longer than broad, broadly rounded at the apex, with dense concolorous scaling. *Elytra* longer than broad (5:4), with the straight shallow punctate striae entirely concealed by the dense scaling, the whole surface being quite even, without any elevations; the black spots usually subquadrate, but sometimes transverse or longer than broad, and often unevenly distributed; setae absent. *Legs* black, with dense fulvous or grey scaling, more or less variegated with black scales, femora with a stout tooth; tarsal claws unequal in both sexes. *Venter* with similar dense scales in the two sexes.

*Length* 3.5-3.8 mm., *breadth* 1.9-2.4 mm.

*Cape Peninsula*: Newlands, 4 ♂ 1 ♀ (type); Claremont, 4♂ 4 ♀, x. 1898 (*C. P. Lounsbury*); Wynberg, 1 ♂, viii. 1898; Rosebank, 1 ♂ 3 ♀, xi. 1901 (*C. W. Mally*).

Most nearly allied to *C. nigropunctatus* Fhs., which has similar dense scaling on the elytra but of a greyish white colour with larger black spots; the rostrum has a strong median carina; the prothorax is more transverse (5:12), with the apex only half as wide as the base, and the basal angles much more acute.

### ***Cionus chilianthi* sp.n.**

♂ ♀. Derm red-brown, with dense grey to pale buff scaling beneath; prothorax darker on the disk, with sparser pale brown and grey scales which do not entirely conceal the derm (rarely with a broad paler median stripe), the sides beyond the lateral tubercles with dense pale buff scaling; elytra typically with fairly dense buff scaling and very faint small whitish spots on the alternate intervals, a broad denser paler unspotted stripe on intervals 7 and 8,

a small dark brown spot at the base of intervals 3 and 5, and a more elongate brown spot on the edge of the shoulders; sometimes the dorsal scaling is pale grey, and then the whitish spots and lateral stripe become obsolescent; setae absent.

*Head* with brown and pale scales which do not conceal the derm; forehead narrowing rapidly behind, at its narrowest point less than half as wide as the base of the rostrum but much wider than the funicle, with two small tufts of scales at its base. *Rostrum* a little longer in ♀ than in ♂ and much longer than the pronotum in both sexes (8.9:6.5), coarsely punctate throughout, with a distant median carina and narrower one on each side, gently curved, parallel-sided to the apex, not deeper than wide at the base; scales rather sparse, grey, recumbent. *Antennae* red-brown; funicle longer than the club, with joint 1 longer than 2. *Prothorax* nearly twice as broad as long, narrowing from base to apex, with the sides straight from the base to the distinct sublateral tubercles and shallowly sinuate in the apical half, the apex two-thirds the width of the bisinuate base, the front margin of the prosternum deeply excised; dorsum with the scales not larger than those on the elytra, lying longitudinally or in part obliquely, but transverse along the base. *Scutellum* as long as broad, shield-shaped, broadly rounded at the apex, with dense concolorous scaling. *Elytra* longer than broad (9:7), the regular rows of punctures only just visible through the scaling when it is intact, the whole surface being quite even and without elevations; setae absent. *Legs* red-brown, with dense mixed buff and whitish scaling; femora with a stout tooth; tarsal claws unequal in both sexes, but in ♂ the smaller claw is much more reduced and is sometimes difficult to see. *Venter* of ♂ with most of the scales in the deep median depression setiform, and the setae forming a raised tuft on ventrite 2.

*Length* 3.0-4.5 mm., *breadth* 1.7-2.5 mm.

*Cape Province*: 2 ♂ 1 ♀; Storms River, 4 ♂ 1 ♀, attacking leaves of *Chilianthus oleraceus*, i. 1925 (type).

Belongs to the group of *C. histrio* Rld., which has however a very distinctive coloration, owing to the conspicuous triangular whitish median stripe on the basal half of the pronotum, the whitish scutellum, and the distinct black and white patches on the alternate intervals of the elytra; moreover, the rostrum lacks the median carina, and the ventral depression of the ♂ is much shallower and clothed only with broad scales.

#### Subfamily TYCHIINAE.

#### **Tychius candidus** sp.n.

♂ ♀. Derm black, with the rostrum, antennae, tibiae and tarsi testaceous; densely clothed above and below with chalky white scales.

*Head* with dense narrow scales; forehead narrowing in front and there as wide as the base of the rostrum, with rather denser

scales, the apices of which are slightly raised behind so as to form the appearance of a transverse impression immediately behind the eyes, which are feebly convex. *Rostrum* of ♀ slightly longer than the head and pronotum, that of ♂ shorter (3:4), stouter, narrowing more rapidly to the apex and densely squamose on the basal three-fifths, the scaling in ♀ being confined to the basal seventh dorsally, and similar to that on the forehead. *Antennae* slender, the scape gradually clavate; funicle with joint 1 as long as 2 + 3, 3-6 as long as broad. *Prothorax* very nearly as long as broad in ♂, slightly wider in ♀ but narrower than the elytra, parallel-sided in the basal half, then gradually narrowing in a curve to the shallow apical constriction, truncate at the apex, very shallowly bisinuate at the base; dorsum quite flat longitudinally on the disk, with the very dense shallow punctation entirely concealed by round scales bearing a shallow fovea in the middle, except along a broad median stripe on which there are dense narrow elongate scales, the whole surface set with numerous stout recumbent white setae. *Elytra* narrowly elongate, parallel-sided from the oblique shoulders to well beyond the middle, jointly sinuate at the base; the shallow sharply-cut striae and their catenulate punctures entirely concealed; the flat coriaceous intervals broader than the striae and each with two rows of comparatively large quadrate overlapping scales, which are shallowly concave, their slightly up-turned apices giving the surface a rough appearance; each interval also with a very dense row of stiff curved subrecumbent white setae, which become suberect posteriorly. *Legs* with dense white scaling and appressed setae; femora and tibiae simple.

*Length* 2.5-2.8 mm., *breadth* 1.0-1.2 mm.

*Cape Province*: Calvinia, 2 ♂ 3 ♀, feeding on flowers and leaves of blaauwbosch, xi. 1917 (J. C. Faure).

A very distinct species, coming nearest perhaps to *T. albulus* Gyll., which is a much stouter insect, having the forehead somewhat narrower than the base of the rostrum; the pronotum is distinctly convex on the disk, with all the scales oblong and flat; on the elytra the striae are clearly visible through the clothing, the scales are oblong, flat and 3 or 4 deep, and the setae are appressed and quite inconspicuous.

### ***Tychius indigoferae* sp.n.**

♂ ♀. Derm piceous to blackish, with the apex of the rostrum, the antennae and the tarsi testaceous, the very dense scaling varying from brown to browish grey; pronotum grey with two very broad admedian ill-defined (often very faint) brown to brownish stripes; elytra with brown, or mingled grey and brown, scales, with a paler sutural stripe at the base which is usually continued backwards more or less faintly for varying distances, often reaching the apex; underside uniformly pale grey.

*Head* deeply depressed transversely behind the eyes, with dense appressed concave scales; forehead narrowing in front and there as wide as the base of the rostrum, with dense scales that are somewhat raised at their apices and subrecumbent spatulate setae; eyes flat.

*Rostrum* shorter than the pronotum in both sexes (♂ 5:7, ♀ 6:7), rapidly narrowing apically, densely squamose on the basal two-thirds (♂) or one-third (♀). *Antennae* rather stout, joints 4-7 of the funicle transverse. *Prothorax* somewhat transverse in both sexes, rounded laterally, widest at a little behind the middle, rather strongly constricted at the truncate apex, which is only a little more than half the width of the distinctly bisinuate base; dorsum feebly convex longitudinally, evenly clothed with dense concave scales and stout subrecumbent setae which become suberect laterally. *Elytra* wider than the prothorax, ovate, parallel-sided only in the basal fourth, jointly sinuate at the base, with rounded prominent shoulders; the striae distinctly visible through the scaling, but the punctures in them concealed by recumbent white setae; the broad intervals slightly convex, each with two rows of densely overlapping subquadrate scales and a sparse row of stout pointed erect setae. *Legs* with dense overlapping grey scales and stout erect setae; femora and tibiae simple.

*Length* 2.7-3.0 mm., *breadth* 1.2-1.5 mm.

*S. Rhodesia*: Salisbury, 8 ♂ 8 ♀, on *Indigofera*, iii. 1906 (G. A. K. Marshall).

Allied to the preceding species by its subquadrate scales and stiff erect setae, but differing in the clothing of the pronotum and the conspicuous striae on the elytra.

## New African Mallophaga

by

G. H. E. HOPKINS, M.A.\*

The Mallophaga are a group of exceptional interest because they are entirely parasitic on mammals and birds and (with rare exceptions) their evolution has lagged behind that of their hosts. For this reason their systematics will, when properly understood, throw most interesting light on the relationships and origins of the hosts. Unfortunately the systematics of the group are at present chaotic, and only a small proportion of the African genera and species have been described. We owe to a member of this Society, the late Mr. G. A. H. Bedford, the fact that the African members of one family, the Trichodectidae, are better-known than almost

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